REMARKS

Claims 1, 11, 23, 24, 26, 36, 48, 49, 51, 61, 73 and 74 have been amended.

Claims 1 - 75 are present in the subject application.

In the Office Action dated January 27, 2003, the Examiner has rejected claims 1 - 75 under 35 U.S.C. §103(a). Favorable reconsideration of the subject application is respectfully requested in view of the following remarks.

Initially, Applicants gratefully acknowledge the courtesies extended by the Examiner and Primary Examiner during the recent telephonic interview. The Primary Examiner recognized Applicants' position with respect to cited art and indicated that the art rejection would be reconsidered and a further search required.

The Examiner has rejected claims 1 - 75 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,557,722 (DeRose et al). Briefly, the DeRose et al patent discloses a data processing system and method for generating a representation of an electronic document, for indexing the electronic document, for navigating the electronic document using its representation and for displaying the electronic document on an output device. The system and method are used with electronic documents having descriptive markup which describes the content or meaning of the document rather than its appearance. Each markup element defines a node or element in a tree, where the tree is represented by providing a unique identifier for each element and for accessing a descriptor of the element. The element descriptor preferably includes indications of the parent, first child, last child, left sibling, right sibling, type name and text location for the element. The document representation is used to facilitate navigation of the text for constructing navigational aids, such as table of contents, and full text indexing.

In contrast, the present invention is directed toward a web-based system for storing

content objects in a data repository as a group of hierarchically related content entities. Each non-container content object is preferably stored as a separate entity in the data repository. As content objects are input into the system or as a user selects desired objects for inclusion in a content object, the system arranges the content objects hierarchically according to the order specified by the input content object or by the user. The system then creates a file object defining the content object that contains a list or outline of the container and non-container entities selected, their identifiers, order and structure. This file object is stored separately in the data repository.

In order to assist in an understanding of the present invention, the present invention features may be illustrated by the following example with respect to generation of a content object in the form of a book. The book structure may include volumes each with one or more chapters, where each chapter, in turn, may include one or more sections. The content of the chapter sections resides in the data repository as individually accessible content entities. The present invention system basically represents the book in the form of a hierarchical outline of containers (e.g., representing volumes or chapters) and subordinate non-containers (e.g., sections). The non-containers are each associated with content entity identifiers indicating the content in the data repository to be included within the corresponding container and book. A user interface enables a user to manipulate the outline to select and alter the book content. In other words, a user may construct the book with content (e.g., text, images, etc.) selected from the data repository. When the user adds, removes or moves a content entity identifier, the corresponding content is respectively added, removed or moved within the book.

This rejection is respectfully traversed since the DeRose et al patent does not disclose, teach or suggest the features recited in independent claims 1, 11, 23, 24, 26, 36, 48, 49, 51, 61,

73 and 74 of the list or outline being manipulable by a user to alter the content of the content object. However, in order to expedite prosecution of the subject application, independent claims 1, 11, 23, 24, 26, 36, 48, 49, 51, 61, 73 and 74 have been amended to further clarify these features and recite enabling modification of the presence and position of content entity identifiers within the list or outline by a user to alter the content and arrangement or hierarchy of the content object.

The Examiner takes the position that the DeRose et al patent teaches a method for indexing and rendering electronic documents, especially electronic books. The book as a content object has a plurality of elements. An element directory consists of an array of element descriptors, each as a content entity representing an element of the document as the content object. The element directory is created as a file object by an indexing process in the mass storage device. The Examiner further alleges that the DeRose et al patent does not explicitly teach the list manipulable by a user to alter content of the content object and storing ones of the content entities as a plurality of individually accessible file objects each containing one content entity, but that the patent discloses utilization of pointers within the element descriptors to reference a particular text chunk in an open text file. With respect to the list or outline being manipulable by a user, the Examiner takes the position that this subject matter is disclosed by the DeRose et al patent section describing document annotations. In addition, the Examiner takes the further position that it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the DeRose et al process to attain the claimed invention.

This rejection is respectfully traversed since the DeRose et al patent does not disclose, teach or suggest the features recited in the independent claims of enabling modification of the presence and position of content entity identifiers within the list or outline by a user to alter the

content and arrangement or hierarchy of the content object. As discussed during the interview, the present invention is directed toward construction and modification of a content object, such as a book. The book content may be represented by content entity identifiers within a list or outline each identifying a corresponding content element (e.g., stored individually in a data repository) for the book. A user may manipulate the content entity identifiers to alter the book content and arrangement. The above claim limitation reflects these aspects of the present invention. In contrast, the DeRose et al patent constructs an element directory, which the Examiner construes as the list or outline, from an electronic document markup file indicating the document content (See Column 5, lines 46 - 58; Column 9, lines 10 - 20; and Column 12, lines 51 - 58). The element directory does not facilitate control or alteration of document content as recited in the claims, but rather provides a fixed representation of a document for navigation, display and indexing purposes. In other words, a user cannot modify the element directory to alter content of the document as recited in the independent claims.

Although the Examiner cites the patent section describing annotations to disclose the claimed content altering features, the annotations are within a list separate from the element directory and are associated with specific document elements (See Column 23, lines 16 – 18). Since the annotations are associated with or point to specific document elements, their order in the list does not affect the arrangement of the document as recited in the claims. In fact, annotations are typically provided without modifying the document (See Column 23, lines 62-63). Thus, the DeRose et al annotations do not disclose, teach or suggest the claimed features of enabling modification of the presence and position of content entity identifiers within the list or outline by a user to alter the content and arrangement or hierarchy of the content object. Since the DeRose et al patent does not disclose, teach or suggest, the features recited in independent

claims 1, 11, 23, 24, 26, 36, 48, 49, 51, 61, 73 and 74 as discussed above, these claims are considered to be in condition for allowance.

Claims 2 - 10, 12 - 22, 25, 27 - 35, 37 - 47, 50, 52 – 60, 62 – 72 and 75 depend, either directly or indirectly, from independent claims 1, 11, 24, 26, 36, 49, 51, 61 and 74, respectively, and include all of the limitations of their parent claims. The dependent claims are considered to be in condition for allowance for substantially the same reasons discussed above in relation to their parent claims and for further limitations recited in these claims.

In addition to the foregoing, it would not be obvious to modify the DeRose et al patent to attain the claimed invention. Specifically, this patent is directed to the rendering of an electronic document for display without modification of document content as discussed above. The content of the document is indicated in a markup file, while the element directory is a fixed representation of the document content. In contrast, the present invention is directed toward a web-based system enabling creation of content objects by manipulating lists or outlines of content entity identifiers (e.g., each identifying a corresponding content element) to alter content within the content object. Since the DeRose et al patent is concerned with display of documents, the patent is not directed toward content object creation and editing. Thus, there is no reason, suggestion or motivation to modify the patent in a manner contrary to its specification to achieve the claimed invention. Thus, the DeRose et al patent does not render the claimed invention obvious.

The application, having been shown to overcome issues raised in the Office Action, is considered to be in condition for allowance and Notice of Allowance is earnestly solicited.

Respectfully submitted,

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APPENDIX

The following are the amended claims with markings to show the changes made, where brackets ('[ ]') indicate removed text and underlining indicates additional text.

--1. (Thrice Amended) A method for storing at least one content object including a plurality of content entities in a data repository, comprising the steps of:

for each content object,

storing as a file object within the data repository a list of content entity identifiers indicating the content entities within and arrangement of the content object, [wherein the list is manipulable by a user to alter the content of the content object, and]

storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object contains one content entity, and

enabling modification of the presence and position of content entity identifiers within said list by a user to alter the content and arrangement of the content object.

11. (Thrice Amended) A method for storing at least one hierarchically structured content object having a plurality of content entities in a data repository, comprising the steps of:

for each content object,

storing as a file object within the data repository an outline of containers and content entity identifiers defining the content and hierarchy of the content object, [wherein the outline is manipulable by a user to alter the content of the content object, and]

storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object contains one content entity, and

enabling modification of the presence and position of containers and content entity identifiers within said outline by a user to alter the content and hierarchy of the content object.

23. (Thrice Amended) A method for retrieving a content object from a data repository, the content object being stored within the data repository as a file object containing an ordered list of content entity identifiers indicating the content entities within and arrangement of the content object, comprising the steps of:

retrieving the file object containing the list of content entity identifiers, wherein each content entity is stored as an individually accessible file object within the data repository;

enabling modification of the presence and position of content entity identifiers within the list by a user to alter the content and arrangement of the content object;

for each content entity identifier, retrieving the individually accessible file object corresponding to the identified content entity; and

inserting the content entity into the ordered list at the location of its content entity identifier[, wherein the list is manipulable by a user to alter the content of the content object].

24. (Thrice Amended) A method for constructing a content object, the contents of the content object being defined by an ordered list of content entity identifiers identifying one or more content entities each stored in a data repository as an individually accessible file object,

comprising the steps of:

enabling modification of the presence and position of content entity identifiers within said list by a user to alter the content and structure of the content object;

for each content entity identifier, retrieving the individually accessible file object corresponding to the identified content entity; and

inserting the content entity into the ordered list at the location of its content entity identifier[, wherein the ordered list is manipulable by a user to alter the content of the content object].

26. (Thrice Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for storing at least one content object including a plurality of content entities in a data repository, the method steps comprising:

for each content object,

storing as a file object within the data repository a list of content entity identifiers indicating the content entities within and arrangement of the content object, [wherein the list is manipulable by a user to alter the content of the content object, and]

storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object contains one content entity, and

enabling modification of the presence and position of content entity identifiers within said list by a user to alter the content and arrangement of the content object.

36. (Thrice Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for storing at least one hierarchically structured content object including a plurality of content entities in a data repository, the method steps comprising:

for each content object,

storing as a file object within the data repository an outline of containers and content entity identifiers defining the content and hierarchy of the content object, [wherein the outline is manipulable by a user to alter the content of the content object, and]

storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object contains one content entity, and

enabling modification of the presence and position of containers and content entity identifiers within said outline by a user to alter the content and hierarchy of the content object.

48. (Thrice Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for retrieving a content object from a data repository, the content object being stored within the data repository as a file object containing an ordered list of content entity identifiers indicating the content entities within and arrangement of the content object, the method steps comprising:

retrieving the file object containing the list of content entity identifiers, wherein each content entity is stored as an individually accessible file object within the data repository;

enabling modification of the presence and position of content entity identifiers within the

list by a user to alter the content and arrangement of the content object;

for each content entity identifier, retrieving the individually accessible file object corresponding to the identified content entity; and

inserting the content entity into the ordered list at the location of its content entity identifier[, wherein the list is manipulable by a user to alter the content of the content object].

49. (Thrice Amended) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for constructing a content object, the contents of the content object being defined by an ordered list of content entity identifiers identifying one or more content entities each stored in a data repository as an individually accessible file object, the method steps comprising:

enabling modification of the presence and position of content entity identifiers within said list by a user to alter the content and structure of the content object;

for each content entity identifier, retrieving the individually accessible file object corresponding to the identified content entity; and

inserting the content entity into the ordered list at the location of its content entity identifier[, wherein the ordered list is manipulable by a user to alter the content of the content object].

51. (Thrice Amended) A system for storing at least one content object including a plurality of content entities in a data repository, comprising:

means for storing, as a file object within the data repository, a list of content entity identifiers indicating the content entities within and arrangement of the content object, [wherein

the list is manipulable by a user to alter the content of the content object, and]

means for storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object contains one content entity, and

means for enabling modification of the presence and position of content entity identifiers within said list by a user to alter the content and arrangement of the content object.

61. (Thrice Amended) A system for storing at least one hierarchically structured content object including a plurality of content entities in a data repository, comprising:

means for storing an outline of containers and content entity identifiers for each content object, the outline being stored as a file object within the data repository and defining the content and hierarchy of the content object, [wherein the outline is manipulable by a user to alter the content of the content object, and]

means for storing ones of the plurality of content entities within the data repository as a plurality of individually accessible file objects, wherein each file object contains one content entity, and

means for enabling modification of the presence and position of containers and content entity identifiers within said outline by a user to alter the content and hierarchy of the content object.

73. (Thrice Amended) A system for retrieving a content object from a data repository, the content object being stored within the data repository as a file object containing an ordered list of content entity identifiers indicating the content entities within and arrangement of the content

object, comprising:

means for retrieving the file object containing the list of content entity identifiers, wherein each content entity is stored as an individually accessible file object within the data repository;

means for enabling modification of the presence and position of content entity identifiers within said list by a user to alter the content and arrangement of the content object;

means for retrieving the individually accessible file object corresponding to each content entity identifier; and

means for inserting the content entity into the ordered list at the location of its content entity identifier[, wherein the list is manipulable by a user to alter the content of the content object].

74. (Thrice Amended) A system for constructing a content object, the contents of the content object being defined by an ordered list of content entity identifiers identifying one or more content entities each stored in a data repository as an individually accessible file object, comprising:

means for enabling modification of the presence and position of content entity identifiers within said list by a user to alter the content and structure of the content object;

means for retrieving the individually accessible file object corresponding to each content entity identifier; and

means for inserting the content entity into the ordered list at the location of its content entity identifier[, wherein the ordered list is manipulable by a user to alter the content of the content object.--